



KONWERSATORIUM INSTYTUTU FIZYKI UMCS

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„Implementation of a positron probe to study biological tissues”

New modern diagnostic methods in oncology allow for more accurate detection of cancerous tissues.

The positron annihilation lifetime spectroscopy was applied to the samples of the human cancerous tissues taken from the selected place of the uterus during a surgery. The method indicated differences in values of the measured positron annihilation lifetime spectroscopy parameters (lifetimes and intensities) between healthy and diseased tissue samples taken from different patients.

The additional measurements were performed either in darkness or in presence of visible light which influenced the free radicals present in both kind of tissues and, as a result, made changes in free annihilation o-Ps decay lifetime and intensity values.

A design and preliminary tests of the new PAL spectrometer for medical tissue tests were made. The use of new elements such as plastic scintillators, SiPM's and dedicated electronics allows for a significant reduction of the device and production costs.

Uprzejmie zapraszam wszystkich pracowników, doktorantów i studentów Instytutu Fizyki.

Dr hab. Ryszard Zdyb, prof. UMCS
Dyrektor IF UMCS